

IN THE CLAIMS:

Please add the following new claims:

16. (New) A decoder for decompressing a compressed video signal, the compressed video signal containing entropy encoded data representing a set of video spatial frequency coefficients of an individual sub-block which have been scanned using a selected one of a plurality of different scanning patterns to produce a set of reordered coefficients, and also containing a scanning mode signal indicating the selected one of the plurality of different scanning patterns, the decoder comprising:

an entropy decoder operative to decode the entropy encoded data and to output entropy decoded data; and

a scanner operative to scan the entropy decoded data according to the one selected pattern of the plurality of different scanning patterns as indicated by the scanning mode signal.

17. (New) A decoder for decoding a coded data signal containing a compressed video signal and a scanning mode signal, the decoder comprising:

an entropy decoder to which is applied the compressed video signal, the compressed video signal including entropy encoded data representing a set of video spatial frequency coefficients of an individual sub-block which have been scanned using a specific pattern selected from a plurality of different scanning patterns to produce a set of reordered coefficients, said entropy decoder being operative to entropy decode the entropy encoded data and to output entropy decoded data; and

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a scanner operative to scan the entropy decoded data responsive to the scanning mode signal, and to output scanned data, wherein the scanning mode signal indicates the specific scanning pattern.

18. (New) The decoder according to claim 17 wherein the coded data signal further includes additional information.

19. (New) The decoder according to claim 17 wherein the entropy encoded data and the scanning mode signal are multiplexed together as part of the coded data signal.

20. (New) The decoder according to claim 18, wherein the entropy encoded data, the scanning mode signal and the additional information are multiplexed together as part of the coded data signal, and wherein said decoder further includes a demultiplexer which demultiplexes the entropy encoded data, the scanning mode signal and the additional information.

21. (New) The decoder according to claim 17, wherein the entropy encoded data is encoded according to a variable length encoding regime.

22. (New) The decoder according to claim 17, wherein the scanner scans the entropy decoded data according to a runlength decoding regime.

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23. (New) The decoder of claim 17, further comprising a dequantizer which dequantizes the scanned data output by said scanner and outputs dequantized data.

24. (New) The decoder of claim 23, further comprising an inverse discrete cosine transformer which inverse discrete cosine transforms the dequantized data output by said dequantizer.

25. (New) A decoder, comprising:
decoding means to which is applied a coded data signal including a compressed video signal, the compressed video signal including entropy encoded data representing a set of video spatial frequency coefficients of an individual sub-block which have been scanned using a selected one of a plurality of different scanning patterns to produce a set of reordered coefficients and, the coded data signal also including a scanning mode signal indicating the selected one of the plurality of different scanning patterns, said decoding means for entropy decoding the entropy encoded data and for outputting entropy decoded data; and
scanning means for scanning the entropy decoded data according to the selected pattern indicated by the scanning mode signal.

26. (New) The decoder according to claim 25, wherein the coded data signal further includes additional information.

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27. (New) The decoder according to claim 25, wherein the entropy encoded data and the scanning mode signal are multiplexed together as part of the coded data signal, and wherein said decoder further includes a demultiplexing means for demultiplexing the entropy encoded data, the scanning mode signal and the additional information.

28. (New) The decoder according to claim 25, wherein the entropy encoded data is encoded according to a variable length encoding regime.

29. (New) The decoder according to claim 25, wherein the scanning means scans the entropy decoded data according to a runlength decoding regime.

30. (New) The decoder according to claim 25, further comprising dequantizing means for dequantizing the scanned data output by said scanning means and for outputting dequantized data.

31. (New) The decoder according to claim 31, further comprising inverse discrete cosine transformer means for inverse discrete cosine transforming the dequantized data output by said dequantizing means.

32. (New) A decoding apparatus for decoding a coded data signal which includes entropy encoded data representing a set of video spatial frequency coefficients of an individual sub-block, the set of video spatial frequency coefficients having been reordered from an original

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order according to a scanning pattern selected from a plurality of scanning patterns, the coded data signal also including a scanning mode signal indicating the selected scanning pattern, the decoding apparatus comprising:

an entropy decoder which entropy decodes the entropy encoded data to produce entropy decoded data; and

a scanning unit which receives the entropy decoded data and returns the set of video spatial frequency coefficients of an individual sub-block to the original order according to the selected scanning pattern indicated in the scanning mode signal.

33. (New) The decoding apparatus according to claim 32, wherein the coded data signal further includes additional information.

34. (New) The decoding apparatus according to claim 32, wherein the entropy encoded data and the scanning mode signal are multiplexed together as part of the coded data signal.

35. (New) The decoding apparatus according to claim 33, wherein the entropy encoded data, the scanning mode signal and the additional information are multiplexed together as part of the coded data signal and wherein said decoding apparatus further includes a demultiplexer which demultiplexes the entropy encoded data, the scanning mode signal and the additional information.

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36. (New) The decoding apparatus according to claim 32, wherein the entropy encoded data is encoded according to a variable length encoding regime.

37. (New) The decoding apparatus according to claim 32, wherein the scanning unit scans the entropy decoded data according to a runlength decoding regime.

38. (New) The decoding apparatus of claim 32, further comprising a dequantizer which dequantizes the scanned data output by said scanning unit and outputs dequantized data.

39. (New) The decoding apparatus of claim 38, further comprising an inverse discrete cosine transformer which inverse discrete cosine transforms the dequantized data output by said dequantizer.

40. (New) A method of decoding a compressed video signal, comprising:
receiving a coded data signal, the coded data signal including a compressed video signal having entropy encoded data representing a set of video spatial frequency coefficients of an individual sub-block which have been scanned using a selected one of a plurality of different scanning patterns to produce a set of reordered coefficients, the coded data signal also including a scanning mode signal indicating the selected one of the plurality of different scanning patterns;
entropy decoding the entropy encoded data and outputting entropy decoded data; and
scanning the entropy decoded data according to the selected pattern indicated by the scanning mode signal and outputting scanned data.

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41. (New) The method of claim 40, wherein the coded data signal further includes additional information.

42. (New) The method of claim 40, wherein the entropy encoded data and the scanning mode signal are multiplexed together as part of the coded data signal.

43. (New) The method of claim 41, wherein the entropy encoded data, the scanning mode signal and the additional information are multiplexed together as part of the coded data signal and wherein said decoding step further includes demultiplexing the entropy encoded data, the scanning mode signal and the additional information.

44. (New) The method of claim 40, wherein the entropy encoded data is encoded according to a variable length encoding regime.

45. (New) The method of claim 40, wherein the scanning step comprises scanning the entropy decoded data according to a runlength decoding regime.

46. (New) The method of claim 40, further comprising a step of dequantizing the scanned data output by said scanning step and outputting dequantized data.

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47. (New) The method of claim 46, further comprising a step of inverse discrete cosine transforming the dequantized data output by said dequantizing step.

48. (New) A method of decoding a coded data signal which includes entropy encoded data representing a set of video spatial frequency coefficients of an individual sub-block, the set of video spatial frequency coefficients having been reordered from an original order according to a scanning pattern selected from a plurality of scanning patterns, the coded data signal also including a scanning mode signal indicating the selected scanning pattern, the method comprising:

entropy decoding the entropy encoded data to produce entropy decoded data; and scanning the entropy decoded data and returning the set of video spatial frequency coefficients of an individual sub-block to the original order according to the selected scanning pattern indicated in the scanning mode signal.

49. (New) The method of claim 48, wherein the coded data signal further includes additional information.

50. (New) The method of claim 48, wherein the entropy encoded data and the scanning mode signal are multiplexed together as part of the coded data signal.

51. (New) The method of claim 49, wherein the entropy encoded data, the scanning mode signal and the additional information are multiplexed together as part of the coded data

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signal and wherein the method further comprises demultiplexing the entropy encoded data, the scanning mode signal and the additional information.

52. (New) The method of claim 48, wherein the entropy encoded data is encoded according to a variable length encoding regime.

53. (New) The method of claim 48, wherein in said scanning step the entropy decoded data is scanned according to a runlength decoding regime.

54. (New) The method of claim 48, further comprising a step of dequantizing the scanned data output by said scanning step and outputting dequantized data.

55. (New) The method of claim 54, further comprising a step of inverse discrete cosine transforming the dequantized data output by said dequantizing step.

56. (New) A decoder for decompressing a compressed video signal, the compressed video signal containing entropy encoded data representing a set of video spatial frequency coefficients of an individual sub-block which have been scanned using a selected one of a plurality of different scanning patterns, and also containing a scanning mode signal indicating the selected one of the plurality of different scanning patterns, the decoder comprising:
an entropy decoder operative to decode the entropy encoded data and to output entropy decoded data; and

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a scanner operative to scan the entropy decoded data according to the one selected pattern
of the plurality of different scanning patterns as indicated by the scanning mode signal.

57. (New) A decoder for decoding a coded data signal containing a compressed video
signal and a scanning mode signal, the decoder comprising:

an entropy decoder to which is applied the compressed video signal, the compressed
video signal including entropy encoded data representing a set of video spatial frequency
coefficients of an individual sub-block which have been scanned using a specific pattern selected
from a plurality of different scanning patterns, said entropy decoder being operative to entropy
decode the entropy encoded data and to output entropy decoded data; and

a scanner operative to scan the entropy decoded data responsive to the scanning mode
signal, and to output scanned data, wherein the scanning mode signal indicates the specific
scanning pattern.

58. (New) The decoder according to claim 57 wherein the coded data signal further
includes additional information.

59. (New) The decoder according to claim 57 wherein the entropy encoded data and the
scanning mode signal are multiplexed together as part of the coded data signal.

60. (New) The decoder according to claim 58, wherein the entropy encoded data, the
scanning mode signal and the additional information are multiplexed together as part of the

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coded data signal, and wherein said decoder further includes a demultiplexer which demultiplexes the entropy encoded data, the scanning mode signal and the additional information.

61. (New) The decoder according to claim 57, wherein the entropy encoded data is encoded according to a variable length encoding regime.

62. (New) The decoder according to claim 57, wherein the scanner scans the entropy decoded data according to a runlength decoding regime.

63. (New) The decoder of claim 57, further comprising a dequantizer which dequantizes the scanned data output by said scanner and outputs dequantized data.

64. (New) The decoder of claim 63, further comprising an inverse discrete cosine transformer which inverse discrete cosine transforms the dequantized data output by said dequantizer.

65. (New) A decoder, comprising:
decoding means to which is applied a coded data signal including a compressed video signal, the compressed video signal including entropy encoded data representing a set of video spatial frequency coefficients of an individual sub-block which have been scanned using a selected one of a plurality of different scanning patterns and, the coded data signal also including

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a scanning mode signal indicating the selected one of the plurality of different scanning patterns,
said decoding means for entropy decoding the entropy encoded data and for outputting entropy
decoded data; and

scanning means for scanning the entropy decoded data according to the selected pattern
indicated by the scanning mode signal.

66. (New) The decoder according to claim 65, wherein the coded data signal further
includes additional information.

67. (New) The decoder according to claim 65, wherein the entropy encoded data and the
scanning mode signal are multiplexed together as part of the coded data signal, and wherein said
decoder further includes a demultiplexing means for demultiplexing the entropy encoded data,
the scanning mode signal and the additional information.

68. (New) The decoder according to claim 65, wherein the entropy encoded data is
encoded according to a variable length encoding regime.

69. (New) The decoder according to claim 65, wherein the scanning means scans the
entropy decoded data according to a runlength decoding regime.

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70. (New) The decoder according to claim 65, further comprising dequantizing means for dequantizing the scanned data output by said scanning means and for outputting dequantized data.

71. (New) The decoder according to claim 70, further comprising inverse discrete cosine transformer means for inverse discrete cosine transforming the dequantized data output by said dequantizing means.

72. (New) A decoding apparatus for decoding a coded data signal which includes entropy encoded data representing a set of video spatial frequency coefficients of an individual sub-block, the set of video spatial frequency coefficients having been scanned according to a scanning pattern selected from a plurality of scanning patterns, the coded data signal also including a scanning mode signal indicating the selected scanning pattern, the decoding apparatus comprising:

an entropy decoder which entropy decodes the entropy encoded data to produce entropy decoded data; and

a scanning unit which receives the entropy decoded data and returns the set of video spatial frequency coefficients of an individual sub-block to the original order according to the selected scanning pattern indicated in the scanning mode signal.

73. (New) The decoding apparatus according to claim 72, wherein the coded data signal further includes additional information.

74. (New) The decoding apparatus according to claim 72, wherein the entropy encoded data and the scanning mode signal are multiplexed together as part of the coded data signal.

75. (New) The decoding apparatus according to claim 73, wherein the entropy encoded data, the scanning mode signal and the additional information are multiplexed together as part of the coded data signal and wherein said decoding apparatus further includes a demultiplexer which demultiplexes the entropy encoded data, the scanning mode signal and the additional information.

76. (New) The decoding apparatus according to claim 72, wherein the entropy encoded data is encoded according to a variable length encoding regime.

77. (New) The decoding apparatus according to claim 72, wherein the scanning unit scans the entropy decoded data according to a runlength decoding regime.

78. (New) The decoding apparatus of claim 72, further comprising a dequantizer which dequantizes the scanned data output by said scanning unit and outputs dequantized data.

79. (New) The decoding apparatus of claim 78, further comprising an inverse discrete cosine transformer which inverse discrete cosine transforms the dequantized data output by said dequantizer.

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80. (New) A method of decoding a compressed video signal, comprising:
receiving a coded data signal, the coded data signal including a compressed video signal
having entropy encoded data representing a set of video spatial frequency coefficients of an
individual sub-block which have been scanned using a selected one of a plurality of different
scanning patterns, the coded data signal also including a scanning mode signal indicating the
selected one of the plurality of different scanning patterns;
entropy decoding the entropy encoded data and outputting entropy decoded data; and
scanning the entropy decoded data according to the selected pattern indicated by the
scanning mode signal and outputting scanned data.

81. (New) The method of claim 80, wherein the coded data signal further includes
additional information.

82. (New) The method of claim 80, wherein the entropy encoded data and the scanning
mode signal are multiplexed together as part of the coded data signal.

83. (New) The method of claim 81, wherein the entropy encoded data, the scanning
mode signal and the additional information are multiplexed together as part of the coded data
signal and wherein said decoding step further includes demultiplexing the entropy encoded data,
the scanning mode signal and the additional information.

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84. (New) The method of claim 80, wherein the entropy encoded data is encoded according to a variable length encoding regime.

85. (New) The method of claim 80, wherein the scanning step comprises scanning the entropy decoded data according to a runlength decoding regime.

86. (New) The method of claim 80, further comprising a step of dequantizing the scanned data output by said scanning step and outputting dequantized data.

87. (New) The method of claim 86, further comprising a step of inverse discrete cosine transforming the dequantized data output by said dequantizing step.

88. (New) A method of decoding a coded data signal which includes entropy encoded data representing a set of video spatial frequency coefficients of an individual sub-block, the set of video spatial frequency coefficients having been scanned according to a scanning pattern selected from a plurality of scanning patterns, the coded data signal also including a scanning mode signal indicating the selected scanning pattern, the method comprising:

entropy decoding the entropy encoded data to produce entropy decoded data; and
scanning the entropy decoded data and returning the set of video spatial frequency
coefficients of an individual sub-block according to the selected scanning pattern indicated in the
scanning mode signal.

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89. (New) The method of claim 88, wherein the coded data signal further includes additional information.

90. (New) The method of claim 88, wherein the entropy encoded data and the scanning mode signal are multiplexed together as part of the coded data signal.

91. (New) The method of claim 89, wherein the entropy encoded data, the scanning mode signal and the additional information are multiplexed together as part of the coded data signal and wherein the method further comprises demultiplexing the entropy encoded data, the scanning mode signal and the additional information.

92. (New) The method of claim 88, wherein the entropy encoded data is encoded according to a variable length encoding regime.

93. (New) The method of claim 88, wherein in said scanning step the entropy decoded data is scanned according to a runlength decoding regime.

94. (New) The method of claim 88, further comprising a step of dequantizing the scanned data output by said scanning step and outputting dequantized data.

95. (New) The method of claim 94, further comprising a step of inverse discrete cosine transforming the dequantized data output by said dequantizing step.